

Cardamom Sapling Production

TCP/NEP/FAO Nepal

Brief of the TCP Project

Cardamom sapling production program is under the Technical Cooperation Program (TCP) which was created to enable FAO to make its know-how and technical expertise available to member countries upon request. FAO Nepal is promoting Large Cardamom Value Chain in Nepal under One Country One Priority Product (OCOP) Framework. The expected starting date of this project was 01 November, 2022 and the end date was 31 October 2024. The total budget for this project was USD 350000.

Implementation Progress of TCP

- National Project Coordinator, focal point, focal implementing agency designated/ identified
- Project Steering Committee Formed
- Project implementation support unit at field identified, communicated
- SPS and other Expert recruited.
- Scoping mission conducted – Field visit, consultation with major stakeholders in the Koshi Province- to identify gaps, the potential district for the implementation and major actions
- TOT manual for GAP and training.

FAO in collaboration with MoALD

- 4 nurseries in Farmers field has been established
- 4 GAP farmers field school conducted
- 1 training of GAP ToT conducted and 2 training in the schedule.
- Tissue culture lab equipment provided.
- Market research has done and found couple of international market in Gulf.

Cardamom Sapling Production Through Tcp

- 4 primary nurseries from seed in Ilam and Panchthar had been established:
 - 3 primary nurseries in Ilam district (1 in Rong Rural Municipality, 1 in Cardamom Development Center, Fikkal and 1 in Nayabajar Ilam)
 - 1 primary nursery in Panchthar district (Ranitar)
- Each primary nursery covers 1 ropani and is estimated to produce 5000 in first year.
- In second year these 5000 cardamom sapling will produce 25000-50000 cardamom sapling, Ceteris Paribus.
- Sapling produce from secondary nursery will distribute to nearby farmers.

Tcp Had Supported Some Tissue Culture Lab Equipment

- Zoom stereo microscope with camera
- Glass bead steriliser
- Plant growth chamber
- Lux meter
- Multi-channel micro-poppet
- BOD incubator
- Centrifuge
- Air curtain
- Laboratory trolley

- Glassware drainage rack
- Laboratory tray
- Media storage rack
- Shoes rack

List of chemicals supported by FAO Nepal

Chemicals	Quantity
Copper Sulphate ($\text{CaSO}_4 \cdot 5\text{H}_2\text{O}$), 100 gm	5
Ammonium Nitrate 1 kg	10
Potassium Iodide, 100 gm	5
EDTA disodium salt, 100 gm	5
Nicotinic Acid, 100 gm	5
Thiamine HCl, 25 gm	5
Pyridoxine HCl, 25 gm	5
Murishige and skoogs media with vitamins and sucrose without agar, 500 g or 1 kg (BOT)	5 bot
Micropipette tips, pack of 1000 pieces	4 packs
Boat shaped plastic 75 ml capacity size (L*W*H) (115*30*20)	10 pcs
2 ml Polypropylene Deep Well Plate 96 well plate	One packet
Test tube (dimension 12*75), 5 ml volume, pack of 100 pcs	4 packs
Test tube (dimension 12*75), 5 ml volume, holder rack	6 pcs
Falcon tube (15 mL), pack of 25 pcs	5 box
Culture bottle with white transparent cap, 400 ml	500 pcs
Forceps of various size, stainless steel	12 pcs
ELISA plate, 1*96 well plate	25
Plant agar or agar agar for tissue culture, 1 kg	5
Sodium Carbonate (Na_2CO_3), 500 g	2
Sodium Hydrogen Carbonate (NaHCO_3), 500 g	2
Sodium Chloride (NaCl), 500 g	2
Potassium Hydrogen Phosphite (KH_2PO_3), 500 g	2
Monosodium Phosphate ($\text{NaH}_2\text{PO}_4 \cdot 12\text{H}_2\text{O}$), 500 g	2
Potassium Chloride (KCl), 500 g	2
Tween-20, 500 ml	1
Polyvinyl Pyrolidone (PVP-40), 100 g	2
Ovalbumin (OVA), 500 g or 500 ml or equivalent	1
Diethanol Amine, 500 ml	2
Sodium Hydroxide, 500 g	2
PRSV Papaya ringspot virus IgG, 0.1 ml	2
PRSV Papaya ringspot virus Conjugate, 0.1 ml	2
PRSV Papaya ringspot virus Positive control, 2.5 ml	1

- Equipment and chemicals support increase capacity of tissue culture lab in CDC.
- More saplings will be produced by tissue culture lab.
- CDC will be able to establish more than 40 secondary nurseries in farmers' field.
- Virus testing of produce sapling.

Further intervention needed

- Certification of saplings
 - SQCC, DoA, NCPVSCD, CDC.
- Training to agriculture technician working on local level.
- Financial support to local level for establishing secondary nurseries.